

DOI: 10.5455/msm.2020.32.88-92

Received: APR 09 2020; Accepted: MAY 31, 2020

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ORIGINAL PAPER

Mater Sociomed. 2020 Jun; 32(2): 88-92

What is the Future of Family Medicine in Bosnia and Herzegovina?

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ABSTRACT

Introduction: Although during undergraduate study students have a high opinion of family medicine and often praise it, during postgraduate studies they show little interest in this medical specialty.

Aim: The study aimed to examine the interest of public medical school students in family medicine as a career choice, to establish whether it changed during the study and if there was a difference in that regard among students studying at medical schools in Bosnia and Herzegovina. Hypotheses: students' attitudes change with learning about the way a family doctor works. **Methods:** Descriptive cross-sectional survey. This manuscript presents a nationwide survey (63% response rate) of public medical school students in Bosnia and Herzegovina regarding their likelihood of selecting Family Medicine as a specialty. An anonymous questionnaire was distributed to all medical students on all six state universities in Bosnia and Herzegovina. Data basis of all doctors who have completed specialization programs were taken from ministries of health.

Results: In the period from 01/01/08 to 12/31/18, only 8.4% of all completed specializations were family medicine doctors in Bosnia and Herzegovina. Interest in family medicine, as a future career, was shown by 31% of medical students, of which over 75% were female students. The largest interest in family medicine was shown by the sixth-year medical students, stating their extensive knowledge of medicine as a reason. **Conclusion:** Students' interest in FM specialization is changing through the years of study. Unfortunately, it is not only the lack of interest, that is the cause of the small number of family medical specialties among students but also poor health policy, which should be subjected to actual reform.

Keywords: medical students, family medicine, medical specialty, career choice.

1. INTRODUCTION

Medical education systems around the world differ and are difficult to compare. Even in Bosnia and Herzegovina (B&H), the curricula are not identical in all medical schools (1). Bosnia and Herzegovina, with less than 3.5 million people (2, 3), has six public medical schools.

In 1999, with the assistance of the Queen's University, in Kingston, Ontario, Canada, the Ministry of Health in B&H established a new postgraduate training program in Family Medicine (FM) (4). The number general practitioners who are trained in Family Medicine has increased since the program was established, but in the past ten years the interest of young doctors in pursuing a career in family medicine has decreased. Understanding the main factors that students give for choosing a specialty gives some insight into how interest in family medicine may be increased. Gender, perception of lifestyle, prestige, and the variety of teaching practices available in the training program, have been shown to influence choice of postgraduate specialty training (5). Choosing a career in family medicine depends on the personal characteristics of the medical student but also on public and institutional policy, admission criteria, and curriculum design. Mentors and role models of medical students have significant influence on students (6).

Unfortunately, it is not only the education system in B&H that is complicated, but the health system as well. According to standards and legally prescribed regulations, general/family medicine comprises the following: paediatrics (0-7 years of age), hygiene and epidemiology service, pulmonology service, women's health care, emergency medical assistance, oral

health protection, radiology (X-ray and ultrasound), laboratory, mental and physical rehabilitation centers (7). The number of employees in primary health care gives a wrong impression and conceals the actual necessity for general practitioners. Family medicine functions within healthcare centers. The allocation of training positions in the various specialties is not based on healthcare system needs. It is estimated that the ideal ratio of specialties is 60% family medicine and 40% other medical specialties (8).

In the 1990s and early 2000s, many countries experienced crises in family medicine. The United States of America reported significant decrease in interest in choosing family medicine as a career (9-11). A study conducted in the USA showed that there was no single, isolated and dominant factor in choosing a medical specialty (12, 13). In the period from 2005 to 2009, a 0.6% decrease in family medicine specialty interest was reported, which implied a 0.1% annual reduction in the number of resident doctors (14). Canadians report a decrease in the number of students choosing family medicine from 40% in the early 90s to 28% at the beginning of this century (6). Decrease of interest in family medicine training can partially be attributed to the misconception of students regarding their future income and expenses in family medicine.

However, students should consider the adaptation of expenses, such as income, family life, career satisfaction, work organization and flexibility in other possible careers, such as research, public health, and public service (14). The main negative factors in choosing family medicine as a career are considered to be the necessary levels of knowledge and the fact that this specialty is not prestigious (6). While in the US and some other countries, interest in family medicine and the recognition of its value in the health care system has rebound in recent years (15), the ratio of general practitioners to specialists in health care systems remains skewed towards specialists.

Today the importance of quality physician education is emphasized, and the schools that implement it must have a good infrastructure, which requires significant financial resources (4). Medical schools in the world do not select their future students based on the status they want to achieve or their desire for large profit but based on their predisposition, needs and interest in medicine, as well as their wish to help others (6). It is assumed that a lack of recognition by medical schools and the entire healthcare system, the perception that FM provides a less prestigious career, general practitioners' difficulty in grasping the scope of the specialty, and the perceived frightening content and scope of FM influence the selection of family medicine as a career option for students (16).

The most common factors in choosing a specialty include: value system, income, lifestyle factors, personality, prestige, tendency to intellectual challenges, technological orientation, origin, investigative skills, understanding of own personal qualities, clinical experience during the study, perception of various medical specialties, gender, illness of the respondent or his/her next of kin, influence of family members, and link between personal interest and career opportunities (12, 14, 17, 18).

2. AIM

This study aims to examine the degree of students' interest in family medicine as a specialty, reasons for their interest, and if that interest has changed during the study. This manuscript presents a nationwide survey (63% response rate) of public medical school students in Bosnia and Herzegovina regarding their likelihood of selecting Family Medicine as a specialty. In same time, we took data from Ministry of Health (both - Federal Ministry of Health and the RS Ministry of Health) about the ratio of family medicine to other specialties.

3. METHODS

Bosnia and Herzegovina is a state comprising two entities [Federation of B&H (FB&H) and Republic Srpska (RS)]. The state has six public medical schools (4 in the FB&H and 2 in the RS) (1) and two private ones. Also, the state has two Ministries of Health responsible for residency position recruitments.

The study was conducted through anonymous questionnaires completed by public medical school students. The questionnaire was short and arranged based on the most common questions used in previous studies such as gender (M/F), academic year (1-6), full-time or repeating year (full-time student/repeater), aspiration of students for a career in family medicine (Yes/No). Both groups were offered 5 Yes/No questions, which served as the basis for the subsequent analysis.

The study was approved by the Ethics Committee of the Medical School in Mostar (No: 01-1-1681/18) and the Ethics Committee of the Banja Luka Medical School (No: 18/4.75/18). The respondents were students from all six medical schools in B&H. Each medical school elected one responsible researcher who delivered questionnaires to representatives of academic years. The representatives divided questionnaires among the students, collected them and returned to the responsible researcher. Once collected, the questionnaires were statistically processed. The entire study was conducted within 10 days, simultaneously in all medical schools, in December 2018. At the same time, data from the Federal Ministry of Health and the RS Ministry of Health related to the number of residents who completed in family medicine and other medical specialties was collected to calculate the medical specialty ratio in the period from 1/1/2008 to 12/31/2018.

The Statistical Package for the Social Sciences (SPSS) version 23 was used for data analysis. Descriptive statistics were used to describe and summarize the sample. Binary logistic regression is used to predict the odds of having positive or negative attitudes towards family medicine based on the values of the independent variables (predictors). P value less than 0.05 was considered significant.

4. RESULTS

Out of the total number of students (3188) from public medical schools in B&H, the questionnaire was correctly filled out by 2009 students (63%). The study included 605 (30.1%) male and 1404 (69.9%) female students.

Table 1 shows the distribution of respondents by gender, academic year and full-time or repeating year students.

Variable	n	%
Gender		
Male	605	30.1
Female	1404	69.9
Academic year		
1.0	478	23.8
2.0	415	20.7
3.0	235	11.7
4.0	307	15.3
5.0	288	14.3
6.0	286	14.2
Full-time students/repeaters		
Full-time students	1829	91.0
Repeaters	180	9.0

Table 1. Distribution of respondents by gender, academic year and full-time or repeating year students

On the question of whether they saw themselves as family physicians (FP) in the future, 624 (31%) students gave affirmative answers, whereas 1385 (68.9%) provided negative answers. Students had the option of choosing several answers, and the most frequent answer to the question of why they would choose family medicine as their future career was that general practitioners had broad medical knowledge. The most common answer to the question of why they did not see themselves as family physicians was that it was boring to treat the same patients all the time. (Table 2)

Statistically, female students would more often choose family medicine as their future career (OR=1.51; 95%CI=1.22, 1.87, p=0.00). Final year students more frequently stated they wanted to see themselves as FPs in the future ($\chi^2=50.897$; $P<0.05$). The status of full-time/repeated study did not influence the choice of FM as future career.

Final year students had the most positive attitude towards family medicine as their future career, and they based it on broad knowledge in medicine (OR=1.79; 95%CI=1.35-2.37, p=0.000), the fact that decision of a family doctor was usually not final—complicated patients could be referred to specialists (OR=1.74; 95%CI=1.23-2.47, p=0.002), no duty hours in FM (OR=2.15; 95%CI=1.49-3.11, p=0.000), familiar treating population (OR=2.54; 95%CI=1.83-3.53, p=0.000) and bonus payment (OR=2.73; 95%CI=1.63-4.58, p=0.000). Duration of the residency training did not prove to be statistically significant in expressing a positive attitude towards family medicine. All students from the first to the fifth study year had a negative attitude towards family medicine as a future career, and the most common reasons they stated were that FPs only wrote referrals (OR=0.41; 95%CI=0.290-0.60, p=0.000). First, second and fourth-year students most commonly expressed a negative attitude towards family medicine, given their consideration that hospital doctors

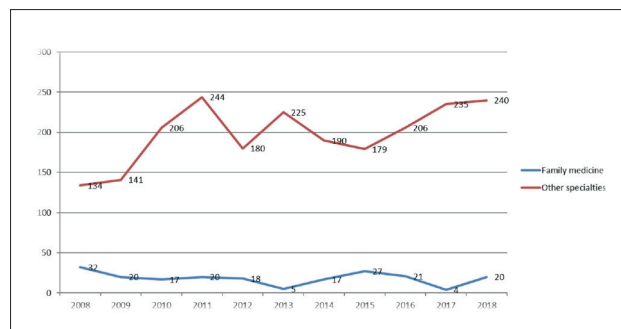


Figure 1. Change in the proportion family medicine and other specialties in Bosnia and Herzegovina in the period 01/01/08 to 12/31/18

had better social status and were more appreciated than general practitioners (consecutively OR=0.47; 95%CI=0.32-0.74, p=0.001), OR=0.44; 95%CI=0.29-0.67, p=0.000, OR=0.56; 95%CI=0.35-0.88, p=0.011). Also, first and fourth-year students supposed that hospital physicians were better paid than general practitioners (consecutively OR=0.49;

Reason for choosing FM	N (%)	Reason for not choosing FM	N (%)
FP has broad knowledge in all branches of medicine	404 (20.1)	Boring, always same patients	659 (32.8)
Complicated patient can always be referred to higher level of healthcare	222 (11.1)	FP only write referrals	470 (23.4)
Has familiar treating population	219 (10.9)	FM is too broad	297 (14.8)
No duty hours	174 (8.7)	Hospital doctors have higher income	215 (10.7)
Bonus pay	73 (3.6)	Better status, hospital doctors are more appreciated	215 (10.7)
Four years specialty	73 (3.6)	Always full surgeries	207 (10.3)

Table 2. Reason for choosing/not choosing family medicine

95%CI=0.28-0.82, p=0.006, OR=0.47; 95%CI=0.27-0.83, p=0.009). Whereas, second-year students believed that it was boring to have the same patients all the time in family medicine (OR=0.71; 95%CI=0.51-0.97, p=0.034).

Data obtained from the ministries of health showed that in the last eleven years (the period from 01/01/08 to 12/31/18) there has been a negative trend in the number of family medicine residents compared to other residents. Only 8.4% of all completed specializations in that period were family medicine doctors in Bosnia and Herzegovina. In the past year, only 8% of specializations were from family medicine, and in 2017, only 4%. (figure 1). Data from the B&H Federal Ministry of Health and the RS Ministry of Health indicated a negative trend in the number of FM residents. In the analyzed period the ratio of family medicine to other specialties was 9.2 vs... 90.8.

5. DISCUSSION

In line with our study, the majority of studies have shown that women more often chose family medicine as their fu-

ture career (6, 12, 19), especially women with families, who do not have enough experience in health system (12, 19). The most common reason for choosing family medicine as future career is the broad medical knowledge family doctors usually have, which is not among the students in Canada. They are developing specific expertise cited as one of the main reasons they choose non-front-line specialty (20). In Japan, the influences on choosing medical specialty included illness of the subject or his/her next of kin, the influence of family members, preclinical experience, clinical environment, the charisma of teachers, and doctor-patient communication (12, 17). Norwegian students state a complex connection between personal interest and possible employment in choosing a medical specialty. The main factors are personal ambition, prestige, lifestyle and family reasons (12, 18). A study conducted in Pakistan states that lack of awareness about the scope of specialty is the main factor for choosing this specialty as future career (21). The most common reason for our students' negative attitude towards family medicine is that FPs only write referrals and have the same patients all the time. Canadian students believe that general practitioners are not adequately paid for their work (14).

The research conducted by Osborn and coauthors states that the reasons for choosing a FM specialization can be divided into three categories: work-life balance, doctor-patient relationship and length of specialization. Facts for a negative attitude towards FM, students reported developing specific proficiency, maintaining a process-oriented practice of potentially high profit and status among colleagues (20). New research in Canada shows that the degree of exposure to different areas of practice, the overall atmosphere, the presence of role models were associated with a positive change in students' interest for FM. In the same research, the biggest factor with a negative effect for the choice of FM was the absence of a role model (22). Family medicine in Jordan is also not a favorite choice, and it is influenced by medical specialty content, personal skills, reputation, earning and focus at emergency solutions (12, 22). Israeli students showed low interest in family medicine (12, 19).

The largest interest was shown by the final year students, which coincides with studies conducted in Croatia, where authors pointed to a devastating loss of interest in family medicine during the study (6). The reason for such attitude of our students could be the fact that only it is in their final study year, which includes a family medicine course, that students are confronted with real patients at the primary level of protection when they take full responsibility for the patients, setting diagnosis and therapies on their own under the control of their respective mentors.

There is concern regarding the future of family medicine. The holistic approach was considered a valued aspect of work, whereas increased workload, erosion of professional autonomy and increasing fear of litigations emerged as negative aspects of a career in family medicine (24).

Career counselling and exposure to medical specialty during clinical years (25) may significantly influence the promotion of family medicine as students' future career. English researchers believe that cultural changes among

teachers are necessary for the promotion of family medicine as a choice of career that is as attractive as hospital training (26).

Students' lack of knowledge about the scope of FM, the relatively negative attitude of other specialists and administrative burden can influence student attitudes. Introduction of FM as soon as possible into teaching would change students' attitudes. A series of studies have highlighted the role of mentor on the students' decision on choosing a specialization (12, 17, 20). Mentoring relationship may promote career success. Mentors can impart specific knowledge and expertise which contributes to learning and skill development and they also facilitate professional networking (27).

The most significant limitation of our study was in the fact that the questionnaire offered only six questions for the pros and cons of choosing family medicine. There are probably other pro and con reasons that students could not select. Although we got a good response from the students, we cannot assume which answers would be provided by the 44% who did not fill out the offered questionnaire. We did not examine the role of family medicine teachers as role models who would stimulate students to start their careers in family medicine.

6. CONCLUSION

This is another in a series of studies with confirms that family medicine is not a popular choice amongst medical students. Although there is a relatively high number of students interested in FM as a career choice, once afterwards, as a young physicians in reality, they can not receive this speciality because of the inadequate health policy in Bosnia and Herzegovina. Their views on FM is changing as they academically mature, which indicates the need for earlier involvement of students in FM doctor's work.

Additional research studies are needed to assess all the possible reasons for this low number of finished specialties of FM. Ministries of health, Faculties of Medicine and professional associations need to work on promoting the importance of FM so that number of graduated specialists could increase in favor of FM.

Without wide action of whole society, the existence of FM is threatened and there is a real danger of a long-term shortage of family doctors, which would lead to a significant decline in the quality of health care in B&H.

- **Acknowledgments:** We would like to thank the professor Marshall Godwin, a family physician and a writer of novels, for his valuable and constructive suggestions during the writing this scientific paper. His willingness to give his time so generously has been very much appreciated. We would like to thank the professor Maja Racic also, our colleague and friend, on unselfish help and suggestions.
- **Authors contribution:** Each author equally participated in preparation this article. Final proof reading was made by the first author.
- **Conflict of interest:** None declared.
- **Financial support and sponsorship:** Nil.

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